

# (12) UK Patent Application (19) GB (11) 2 368 801 (13) A

(43) Date of A Publication 15.05.2002

(21) Application No 0027244.3

(22) Date of Filing 08.11.2000

(71) Applicant(s)

**Michael Peter Keating**  
Tan-y-Fron, Pont Cyfyng, CAPEL CURIG, Gwynedd,  
LL24 0DU, United Kingdom

(72) Inventor(s)

**Michael Peter Keating**

(74) Agent and/or Address for Service

**Gordon Matheson Roe**  
Impact Leisure International, 55 Well St, Ruthin,  
DENBIGHSHIRE, Wales, LL15 1AF, United Kingdom

(51) INT CL<sup>7</sup>

**E01C 13/12**

(52) UK CL (Edition T )

**A6D D39A**

(56) Documents Cited

**GB 2330315 A**

**GB 1288226 A**

**GB 0990913 A**

**US 4161558 A**

**US 4087088 A**

**US 3574107 A**

(58) Field of Search

**UK CL (Edition S ) A6D D39A**

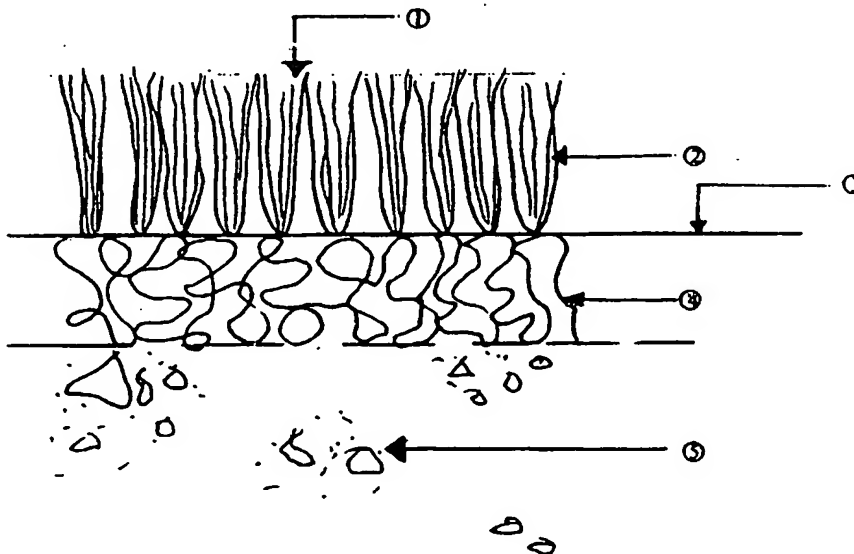
**INT CL<sup>7</sup> A63C 19/10 , E01C 13/10 13/12**

**ONLINE: EPODOC JAPIO WPI**

(54) Abstract Title

**Artificial ski and snowboard practice surface**

(57) An artificial surface for skiing or snowboarding comprises an upper, carpet-type, layer of filaments 2 with a cloth and optionally rubber material backing 3, over an impact-absorbing layer 4, possibly a welded matrix of nylon fibres, which helps to minimise injury to participants when they fall. The surface can flex enabling it to be laid over irregular slopes, eg graded stone, to give the desired profile to the slope, and is free-draining. It is preferred for safety reasons to lay the surface without any metal fittings.

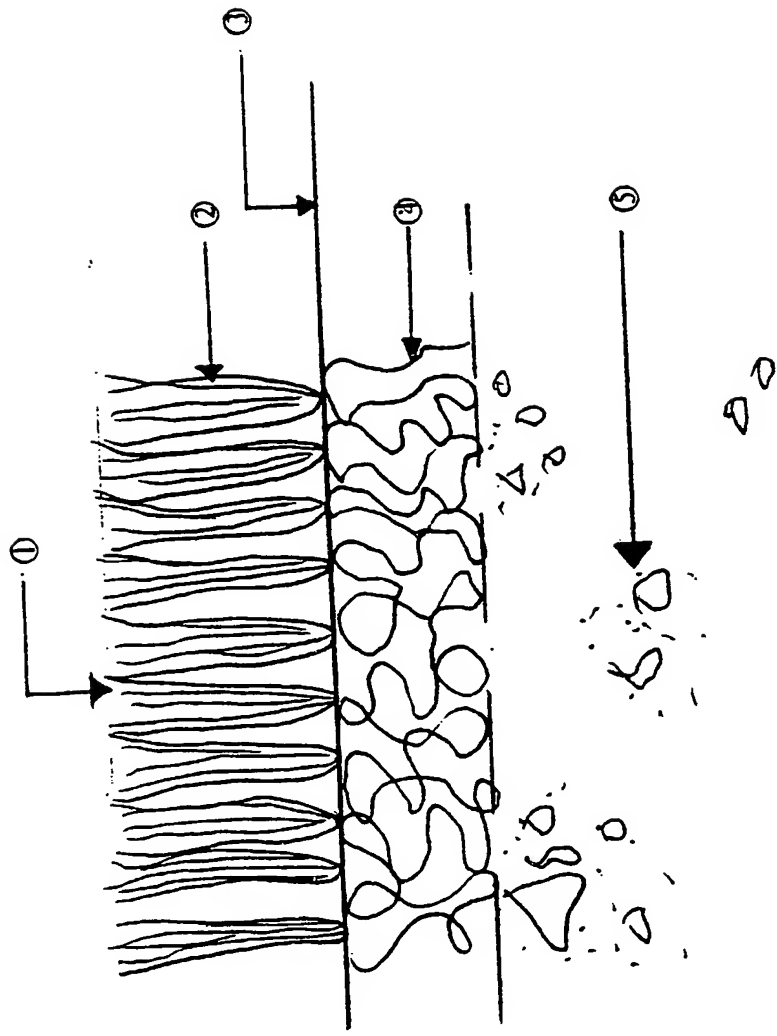


Typical section through impact absorbent  
artificial ski and snowboard surface

FIGURE 1.

GB 2 368 801 A

BEST AVAILABLE COPY



Typical section through impact absorbent  
artificial ski and snowboard surface

Scale 1:1

FIGURE 1.

## **IMPACT ABSORBENT ARTIFICIAL SKI AND SNOWBOARD SURFACE**

This invention relates to an impact absorbent artificial surface used in the ski and snowboarding sections of the leisure industry.

Artificial ski surfaces are used in the leisure industry for teaching skiing, snowboarding and for general recreational use. Their surface traditionally consists of bristles of various types, generally supported by steel backing strips. It is particularly common for participants in these sports to fall onto the ski surface, especially during the early stages of skill development. More recently, snowboarders are becoming more adventurous and are requiring jumps, ramps and various curved features to provide them with a take off platform to perform somersaults, tricks and spectacular acrobatic manoeuvres. This is developing into a new sport and has been recognised as such by the Winter Olympic Committee who now include it in the Winter Olympic Games.

The surfaces of existing artificial ski slopes tend to provide an unforgiving surface leading to a high incidence of accidents and injuries.

Therefore, soft, impact absorbent surfaces have particular advantages for all participants from the complete beginner to an expert performing somersaults and the like.

According to the present invention there is provided an impact absorbent ski and snowboard surface, comprising a continuous carpet-type of surface. Beneath this carpet-type surface is a sub-layer of materials capable of absorbing further impact. Beneath this impact absorbing layer, a sub-surface of graded stone is provided when the system is used outdoors.

The specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing.

**Figure 1:** shows a typical cross-section through the impact-absorbing ski and snowboard surfaces.

Referring to the drawing, the impact absorbing ski and snowboard surfaces consist of:

- A ski and snowboard surface upon which activities take place (Ref1).
- A ski and snowboard carpet-type material which has filaments of polypropylene or similar materials (Ref 2) supported by a cloth-type support layer (Ref3), further stabilised by a rubber material.

- A sub-layer (Ref 4) of randomly placed nylon fibres (or similar), welded to form a matrix.
- A base layer of graded stone (Ref 5) to provide a formation which can be shaped to a desired profile when used outdoors.

**CLAIMS**

1. An impact absorbent artificial ski and snowboard surface comprising of a carpet-type surface layer, beneath which is a further impact absorbent layer which recovers its shape, thickness and texture.
2. An impact absorbent artificial ski and snowboard as described in Claim 1, wherein the system is capable of flexing in 2 directions, thus enabling the surface to cover irregular shapes.
3. An impact absorbent ski and snowboard surface as described in Claim 1 wherein the surfaces are free draining.
4. An impact absorbent ski and snowboard surface as described in any preceding claim, capable of being installed without the use of metal fixtures.



4



INVESTOR IN PEOPLE

Application No: GB 0027244.3  
Claims searched: 1 to 4

Examiner: Roland Whaite  
Date of search: 10 April 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
UK Cl (Ed.S): A6D (D39A)  
Int Cl (Ed.7): A63C (19/10); E01C (13/10, 13/12)  
Other: Online: EPODOC JAPIO WPI

### Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2330315A	D G WHITAKER (see especially page 8, lines 15 to 20, page 14, lines 5 to 9 and Fig 6)	1, 2 and 4
X	GB 1288226	BUNKER-RAMO CORPN (see especially page 1, lines 81 to 90 and page 3, lines 30 to 46)	1, 2 and 4
X	GB 990913	R L HALL (see especially page 2, lines 60 to 71)	1
X	US 4161558	J L A SEE (see column 1, line 9 and the drawings)	1, 2, 3
X	US 4087088	K J KELSO whole document	1
X	US 3574107	J L HURKA (see column 2, lines 29 to 37)	1, 2

X Document indicating lack of novelty or inventive step  
Y Document indicating lack of inventive step if combined with one or more other documents of same category.  
& Member of the same patent family

A Document indicating technological background and/or state of the art  
P Document published on or after the declared priority date but before the filing date of this invention.  
E Patent document published on or after, but with priority date earlier than, the filing date of this application.